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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,264	05/09/2007	Yasutaro Seto	80400(303227)	3624

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EXAMINER	
JOYNER, KEVIN	
ART UNIT	PAPER NUMBER
1797	
MAIL DATE	DELIVERY MODE
08/18/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,264	SETO ET AL.	
	Examiner	Art Unit	
	KEVIN C. JOYNER	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8 and 12-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-8 and 12-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 6, 2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 12 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Although there are numerous disclosures that the filter **contains** metal complexes, The Office cannot find proper support for the newly added limitations that the filter **consists** only of metal complexes. Appropriate action is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4-8 and 12-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Hasebe et al. (U.S. Patent No. 5,047,022).

With regard to claims 1, 12 and 18, Aibe discloses a deodorizing filter comprising two separate halves (88 & 89), a first activated carbon deodorizing filter (88) with an alkali regulated so as to intrinsically have a high-pH environment (column 5, line 25 to column 6, line 15) forming a first half (Figure 12) and a second activated carbon deodorizing filter (89) with phosphoric acid regulated so as to intrinsically have a low-pH (column 6, line 55 to column 7, line 13) environment forming a second half (Figure 12). Aibe does not appear to disclose that one or both deodorizing filter(s) is a filter of a cobalt phthalocyanine complex and an iron phthalocyanine complex supported on an active carbon filled paper. Hasebe discloses a deodorizing filter for removing odors from the atmosphere (column 1, lines 50-68). The reference continues to disclose that the filter comprises a first and second deodorizing filter (referenced as fibers A & B; column 1, lines 55-68; column 5, lines 50-65), wherein metals are present in the second

deodorizing filter and consist of metal complexes comprising a cobalt phthalocyanine complex and an iron phthalocyanine complex (column 2, lines 18-26) on said second filter (column 2, lines 55-61) in order to decompose hydrogen sulfide and mercaptan by the catalytic action of the complex having oxidation reduction powers (column 2, lines 62-68; for a more detailed explanation, please see the **Response to Arguments** section of this Office Action). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the filter of Aibe to include a cobalt phthalocyanine complex and an iron phthalocyanine complex on one or both activated carbon filters of Aibe in order to decompose hydrogen sulfide and mercaptan by the catalytic action of the complex having oxidation reduction powers as exemplified by Hasebe.

Claims 4, 5, 7, 13, 14, 16, 19, 20 and 22 further requires that the weight ratio of the phthalocyanine complex/iron phthalocyanine be between 95/5 to 55/45 and the amount of the complexes be in the range of 200 to 20,000μg with respect to 1 g of the paper. It would have been well within the purview of one of ordinary skill in the art to optimize weight ratios of said complexes and the amount of said complexes in order to maximize the deodorization effects against foul smelling materials such as hydrogen sulfide and mercaptan. Only the expected results would be attained.

Claims 6, 15, and 21 further requires that the pH of the high-pH environment is between 7.5-12.0 and the pH of the low-pH environment is 1.5-5.0. The deodorizing filter of Aibe will produce a filter creating a high and low pH environment as set forth above and disclosed in columns 4-7. Nonetheless, for further prosecution, it would

have been well within the purview of one of ordinary skill in the art to optimize the high and low pH environment in the filter of Aibe in order to maximize the deodorization results against an acid and alkaline substance simultaneously. Only the expected results would be attained.

Claims 8, 17 and 23 further requires that the active-carbon-filled paper contain active-carbon at a content of 40 to 80 mass %. As set forth in column 5, lines 1-8 of Aibe, said active-carbon-filled paper contains a content of at least 30% active-carbon or more. As such, it would have been well within the purview of one of ordinary skill in the art to optimize the amount of active-carbon in said filter paper in order to maximize the efficiency and effectiveness of the filtering process. Only the expected results would be attained.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Hasebe et al. (U.S. Patent No. 5,047,022) as applied to claim 1 above, and further in view of Ishii et al. (U.S. Patent No. 5,830,414).

Aibe is relied upon as set forth above. Aibe does not appear to disclose that both filters have a quaternary ammonium salt. Ishii discloses a deodorizing filter comprising a first or second filter provided with one of an alkali or a phosphoric acid (column 2, lines 11-68). The reference continues to disclose that said filter is further provided with a quaternary ammonium salt in order to provide antibacterial properties for said filter (column 3, lines 10-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the filters of Aibe to include a quaternary

ammonium salt on said filters in order to provide antibacterial properties for said filter as exemplified by Ishii.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Hasebe et al. (U.S. Patent No. 5,047,022) as applied to claim 1 above, and further in view of Lindhe (U.S. Patent No. 5,944,878).

Aibe is relied upon as set forth above. Aibe does not appear to disclose that the filters have hydrazine and polyvinylamine compounds. Lindhe discloses a deodorizing filter comprising a set of filters that are provided to remove malodorous gases from the air (column 3, lines 5-25). The reference continues to disclose that the filter is provided with hydrazine derivatives and polyvinylamine compounds (column 2, lines 55-68), or at least a known equivalent alternative thereof (column 4, lines 3-10), in order to remove contaminating gases such as formaldehyde (column 2, lines 55-68). As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the filters of Aibe to include hydrazine and polyvinylamine compounds in said filters in order to remove contaminating gases such as formaldehyde as exemplified by Lindhe.

8. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aibe et al. (U.S. Patent No. 5,288,306) in view of Hasebe et al. (U.S. Patent No. 5,047,022) as applied to claims 1, 12 and 18 above, and further in view of Minemura et al. (U.S. Patent No. 6,936,094).

Aibe is relied upon as set forth above wherein the reference discloses that the alkali treats gases such as sulfur containing compounds. Aibe does not appear to disclose that the alkali is sodium hydroxide. However, it is extremely well known in the art of deodorization to provide an activated carbon filter with sodium hydroxide. One such example is provided by Minemura wherein the reference discloses an activated carbon filter for the deodorization of air (column 8, lines 40-68). The reference continues to disclose that the filter is provided with an alkali comprising sodium hydroxide in order to produce the predictable result of treating sulfur containing gases (column 6, line 55 to column 7, line 26). Since both Aibe and Minemura provide the alkali to treat contaminating gases such as sulfur containing compounds, then it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize sodium hydroxide in the filter apparatus of Aibe in order to produce the predictable result of treating sulfur containing compounds as exemplified by Minemura.

Response to Arguments

9. Applicant's arguments filed July 6, 2010 have been fully considered but they are not persuasive.

Applicant's principle argument is that the filter now claimed recites that "metals are present and consist of metal complexes" which is not the teaching of the combination of Aibe in view of Hasebe. In brief, Aibe discloses various metals (especially alkali metal iodides) may be supported on an activated carbon honeycomb as the free metal or as a compound containing the metal (col.8, lines 16-18). Aibe does

not disclose metal complexes. Hasebe discloses bedding with tick wraps, wherein at least a part of a wadding fiber A retains more than 1% by weight of a metal complex having oxidation- reduction power, and a fiber B retains metal ions (col.1, lines 58-62). At the minimum, the combination of references teaches at least the combination of metal ions and metal complexes.

It is noted that Hasebe specifically discloses an example wherein a filter consists solely of only metal complexes in said filter (referenced as bedding A in column 5, line 25 to column 6, line 10), wherein said filter removed malodorous components from a mattress and quilt for over one year (Table 6). As such, Hasebe discloses the limitations as set forth above. Furthermore, claims 1, 12 and 18 specifically disclose a filter with a first and second filter therein…wherein metals are present and consist of metal complexes. The claims are not so limited in a manner such that the metal complexes are the only metals found in the entire filter (i.e. a filter that consists only of metal complexes in the first or second filter would meet the limitations of the claim). As further shown in column 5, line 25 to column 6, line 13; Hasebe also discloses a filter assembly comprising a first and second filter (referenced as fibers A & B and beddings A & B) wherein the second filter consists only of metal complexes. As broadly defined, Hasebe meets the limitations as currently set forth in this regard as well. Thus, the limitations of claims 1, 12 and 18 are met with respect to Aibe in view of Hasebe.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN C. JOYNER whose telephone number is (571)272-2709. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 16, 2010

/Kevin C Joyner/
Examiner, Art Unit 1797